REMARKS

Claims 33-52 are pending, claims 45-52 stand restricted as being directed toward a different invention, and claims 33-44 stand rejected. Applicants withdraw claims 45-52 and respectfully requests entry of claims 53-60. Applicants respectfully suggest that the rejections with respect to the claims are traversed in light of the following remarks.

Claim rejections under 35 USC § 103

The Office action rejected claim 33 and 41 under 35 USC § 103(a) as being unpatentable over Farrand, U.S. Patent Application No. 3,614,541 (hereinafter referred to as "Farrand") in view of Wakabayashi et al., U.S. Patent Application No. 6,025,993 (hereinafter referred to as "Wakabayashi").

To establish a prima facie case of obviousness, three basic criteria must be met.[1] First, there must be a suggestion or motivation to modify or combine the references.[2] Second, there must be a reasonable expectation of success in the modification or combination.[3] Finally, the modification or combination must teach or suggest all of Applicants' claim limitations.[4]

The combination of Farrand and Wakabayashi fails to meet the criteria to establish a prima facie case of obviousness because there is no motivation to combine the references and the references fail to suggest all of Applicants' claim limitations.

No suggestion or motivation to combine Farrand and Wakabayashi

There is no suggestion or motivation to combine the references because Farrand teaches away from the suggested combination of Farrand with Wakabayashi. In particular, for independent claim 33, the Office action (page 3, section 4, rejection of claim 33) states:

> ...Farrand (col. 2, lines 27-75) discloses ... **mounting sites 2 to mount integrated circuits (col. 2, lines 38-42), wherein the mounting sites 2 couple with the interior surface 8-11; a pattern of interconnects 30 coupled with the interior surface 8-11 and interconnected with the mounting sites 2** to transmit

[1] Manual of Patent Examining Procedure §2142.
[2] *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).
[3] *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097, 231 USPQ 375, 379 (Fed. Cir. 1986).
[4] *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974).

> signals between the integrated circuits (col. 2, lines 38-42), **but lacks at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure** to receive input from outside the enclosure....

Similarly, for independent claim 41, the Office action (page 5, section 4, rejection of claim 41) states:

> ...Farrand (col. 2, lines 27-75) discloses ... **integrated circuits (col. 2, lines 38-42); mounts 2 in the enclosure 7 to mount the integrated circuits (col. 2, lines 38-42), wherein the mounts 2 couple with the interior surface 8-11; a pattern of interconnects 30 couple with the interior surface 8-11 and interconnected with the mounts 2** to transmit signals between the integrated circuits (col. 2, lines 38-42, **but lacks at least one switch coupled with the pattern of interconnects and exposed via the outside surface of the enclosure** to receive input from outside of the system....

Farrand does not describe, expressly or inherently, "mounting the components ... to the interior surface...". Farrand describes mounting "integrated circuit components" on "module boards" or "boards", which are interconnected via wire patterns on the module boards. The circuits on both sides of the module boards are interconnected through the conducting strips on the inner sides of the housing (see col. 3, lines 38-47). In fact, Farrand states that an object of the invention includes "provid[ing] a package in which circuits of modules are flexibly attached to the module boards to permit dimensional changes..." (see col. 1, lines 63-65). Thus, Farrand teaches away from mounts for integrated circuits on the interior surface of the enclosure. Applicants respectfully request that the rejection of claims 33 and 41 be withdrawn and that claims 33 and 41 be allowed. Furthermore, Applicants respectfully suggest that the new claim set including independent claim 53 is not subject to this rejection for essentially the same reason.

There is no suggestion or motivation to combine the references because Farrand changes a principle of operation of Farrand as well as the keyed lock mechanism from Wakabayashi. If the proposed modification changes the principle of operation of the reference being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.[5] The principle of operation is changed when the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary

[5] *In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (CCPA 1959).

reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate."[6] The rejection of claim 33 (which is similar to the rejection of claim 41) states:

> ... Regarding claim 33, Farrand (col. 2, lines 27-75) discloses an enclosure comprising: an interior surface 8-11 and an outside surface (figure 2) of the enclosure 7, the interior surface 8-11 enclosing the electronic device 12-17; mounting sites 2 to mount integrated circuits (col. 2, lines 38-42), wherein the mounting sites 2 couple with the interior surface 8-11; a pattern of interconnects 30 coupled with the interior surface 8-11 and interconnected with the mounting sites 2 to transmit signals between the integrated circuits (col. 2, lines 38-42), **but lacks at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure to receive input from outside of the enclosure.**
>
> Wakabayashi et al. (col. 17, lines 45-62) teaches at least one switch 580 coupled with the pattern of interconnects at the interior surface (col. 17, lines 58-60) and exposed via the outside surface of the enclosure (figure 14 near reference line 503) to receive input from outside of the enclosure (figure 14 near reference line 503).
>
> It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Farrand by providing at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure to receive input from outside of the enclosure in order to provide a power source to the enclosure in view of the teachings of Wakabayashi et al....[7]

Farrand describes the need for a "hermetically sealed package" [8], claims a hermetically sealed package[9] and discloses "a hermetically sealed package, which provides mechanical, electrical, and thermal connections to an enclosed electronic circuit." Farrand discloses:

> ... After the modules and cover plates have been assembled, **the package is subjected to an environment for fusing the individual members together to produce a hermetically sealed package which provides mechanical, electrical and thermal connections to the modules.**
>
> Therefore, it is an object of this invention to provide **a hermetically sealed package which provides mechanical, electrical and thermal connections to an enclosed electrical system**....[10]

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[6] *In re Ratti, 270 F.2d at 813, 123 USPQ at 352.*
[7] Non-Final Office action dated July 5, 2006, sect. 4, pp 3-4; emphasis added.
[8] Farrand: Description of the Prior Art, Col.1: lines 10-15.
[9] Farrand: Claim 1, Col. 5, line 8 (the only independent claim).
[10] Farrand: Summary of the Invention, Col.1: lines 50-58; emphasis added.

Wakabayashi teaches the use of a "keyed lock mechanism" that can act as a lock and "can also be configured to provide an electrical switching function." Wakabayashi discloses:

> ... In the alternative, a lock mechanism can be employed as illustrated in FIG. 14. In FIG. 14, a cartridge 503 is shown using a keyed lock mechanism 580. **When a key is inserted in mechanism 580 and turned,** a protruding element 582 contained inside cartridge 503 is extended inside of printer 1 and engages a groove or depression (not shown) at a corresponding position in the printer. **The lock pin could also be extended to engage any portion of the frame surrounding the slot in which cartridge 503 is inserted.** Using this approach, cartridge 503 is prevented from being removed from the printer. Those skilled in the art will appreciate **that key lock mechanism 580 can also be configured to provide an electrical switching function so that turning the key not only locks cartridge 503, but also switches or engages a power source for the cartridge.** Instead of a chain or lock mechanism, cartridge 503 can also be secured to the printer with a screw to prevent theft....[11]

The Office action argues it would be obvious to combine the keyed lock mechanism of Wakabayashi with the hermetically sealed electronic circuit of Farrand to provide "...at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure to receive input from outside of the enclosure...." Thus, the Office action argues that both claims 33 and 41 are obvious in light of Farrand and Wakabayashi.

However, a principle of the operation of Farrand is fusing the walls of the enclosure to hermetically seal the electronic circuit. A principle of the operation of the key locked mechanism of Wakabayashi is to act as a lock, or at least a mechanism to secure a cartridge to a printer. Both principles of operation are modified in the combination. In particular, the hermetic seal of Farrand would be accomplished in a substantially different way. Farrand seals the enclosure by fusing the walls, which works when there is no moving parts moving between the exterior atmosphere and interior atmosphere.[12] By adding the keyed lock mechanism, the Office action suggests adding a moving part between the key and the circuitry implementing the electrical switching function. The Office action lacks support for how a moving part of the keyed lock mechanism is sealed and how this new hermetic seal can be accomplished to perform

[11] Wakabayashi: Col.17: lines 45-62; emphasis added.

the electrical switching function outside the hermetic seal, as this would defeat the purpose for the hermetic seal.

Alternatively, the combination changes a principle of operation by eliminating the hermetic seal. Furthermore, the keyed lock mechanism either locks the enclosure of Farrand, changing a principle of operation of Farrand, or does not lock anything, changing a principle of operation of the keyed lock mechanism from Wakabayashi. In particular, if the keyed lock mechanism locks the wall of the enclosure through which the keyed lock mechanism protrudes to the enclosure of Farrand, then that wall is not fused to the other walls of the enclosure as taught by Farrand.[13] On the other hand, if the keyed lock mechanism does not lock the enclosure of Farrand, the keyed lock mechanism does not lock the body through which it is attached to the enclosure as taught by Wakabayashi.[14]

The suggested combination of references Farrand and Wakabayashi changes the principle of operation of Farrand and Wakabayashi so the combination is insufficient to render the claims prima facie obvious.[15] Thus, the rejections of claims 33 and 41 are based upon an improper combination of Farrand and Wakabayashi and should be withdrawn.

In addition, a combination of references cannot support an obviousness rejection unless the references also suggest the desirability of the combination.[16] Farrand does not suggest the desirability of exposing a switch through the hermetic seal and Wakabayashi does not suggest the desirability of attaching a key to a power supply for the electronic circuit of Farrand through a hermetically sealed enclosure. In summary, Farrand is incompatible with both Wakabayashi and the intended result of the combination of Farrand and Wakabayashi as described in the Office action. Accordingly, there is no suggestion in the references of the desirability in combining Farrand and Wakabayashi. Therefore, the rejections of claims 33 and 41 are based upon an improper combination of Farrand and Wakabayashi and should be withdrawn.

The requirements for a proper Section 103 rejection were recently and unambiguously re-stated by the U. S. Court of Appeals for the Federal Circuit in *In re Dembiczak*.[17] The claims at

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[12] See Farrand: Summary of the Invention, Col.1: lines 50-58.
[13] Farrand: Summary of the Invention, Col.1: lines 50-58.
[14] Wakabayashi: Col.17: lines 45-62.
[15] *In re Ratti, 270 F.2d at 813, 123 USPQ at 352.*
[16] *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990).
[17] *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999).

issue in *Dembiczak* were directed towards an orange trash bag on which facial indicia such as eyes, nose, and mouth were affixed to simulate the appearance of a carved, decorative pumpkin when the bag was filled with leaves or other trash filling material. The Board of Patent Appeals and Interferences (the Board) affirmed the examiner's rejection of the claims under Section 103 based on a combination of references, one of which was conventional prior art trash bags and another of which was a children's art book describing a method of making a "paper bag pumpkin" by stuffing a bag with newspapers, painting it orange, and then painting on facial features with black paint. The Federal Circuit reversed the Board, reasoning that the Board had failed to make a showing of any suggestion, teaching, or motivation to combine the cited references.

In a strongly worded opinion, the Court wrote, "[o]ur case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."[18] The Court went on to say, "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability."[19] While the *Dembiczak* Court acknowledged that the required evidence of suggestion or motivation does not necessarily have to be found in the references themselves and may flow from the knowledge of one of ordinary skill in the art, the Court made clear that "the range of sources available [for demonstrating the requisite suggestion or motivation]... does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'"[20]

In a subsequent, unpublished opinion, the Federal circuit unambiguously confirms *Dembiczak*, remarking that there not only must be motivation for one of ordinary skill in the art to combine the prior art teachings but combine the prior art teachings in the particular manner claimed:

> ...Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the

[18] *In re Dembiczak*, 50 USPQ2d at 1617.
[19] *In re Dembiczak*, 50 USPQ2d at 1617.
[20] *In re Dembiczak*, 50 USPQ2d at 1617 (citation omitted).

> requirement for a showing of the teaching or motivation to combine prior art references." Dembiczak, 175 F.3d at 999; see also Ruiz, 234 F.3d at 665 (explaining that the temptation to engage in impermissible hindsight is especially strong with seemingly simple mechanical inventions). This is because "combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight." [*286] Dembiczak, 175 F.3d at 999. **Therefore, we have consistently held that a person [**9] of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but some motivation to combine the prior art teachings in the particular manner claimed.** See, e.g., In re Kotzab, 217 F.3d 1365, 1371 (Fed. Cir. 2000) ("**Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.**" (emphasis added)); In re Rouffet, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed...." (emphasis added)).[21]

In rejecting the claims, the Office action did not particularly identify any suggestion, teaching, or motivation in the cited references to modify Farrand to incorporate the teachings of Wakabayashi beyond general statements indicating that adding a keyed lock mechanism is useful to provide a power source. The Office action states:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Farrand by providing at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure to receive input from outside of the enclosure **in order to provide a power source to the enclosure in view of the teachings of Wakabayashi et al....**[22]

Nor did the Examiner make specific or inferential findings concerning the identification of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a Section 103 rejection. Because Farrand lacks any suggestion or motivation to include a keyed lock mechanism, Applicant suggests that combining Farrand and Wakabayashi is improper. Accordingly, Applicants respectfully request

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[21] *Teleflex Inc. v. KSR Int'l Co.*, 119 Fed. Appx. 282, 285 (Fed. Cir. 2005)(unpublished opinion).
[22] Non-Final Office action dated July 5, 2006, sect. 4, p. 4, first paragraph; emphasis added.

that the rejections of claims 33 and 41 are based upon an improper combination of Farrand and Wakabayashi and should be withdrawn.

Further, Applicants submit that the independent claims 33 and 41 are in condition for allowance, the claims dependent upon claims 33 and 41 are also in condition for allowance.[23] Accordingly, Applicants respectfully request that the rejections with respect to the dependent claims also be withdrawn.

The modification or combination does not teach or suggest all claim limitations

The combination of Farrand and Wakabayashi does not teach or suggest all of the claimed limitations. Specifically, the combination does not teach or suggest mounting sites or mounts for integrated circuits coupled with the interior surface of the enclosure[24] and neither Farrand nor Wakabayashi teach or suggest coupling the keyed lock mechanism of Wakabayashi with a pattern of interconnects at the interior surface of the enclosure.[25]

In particular, for independent claim 33, the Office action (page 3, section 4, rejection of claim 33) states:

> ...Farrand (col. 2, lines 27-75) discloses ... **mounting sites 2 to mount integrated circuits (col. 2, lines 38-42), wherein the mounting sites 2 couple with the interior surface 8-11; a pattern of interconnects 30 coupled with the interior surface 8-11 and interconnected with the mounting sites 2** to transmit signals between the integrated circuits (col. 2, lines 38-42), **but lacks at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure** to receive input from outside the enclosure....

Similarly, for independent claim 41, the Office action (page 5, section 4, rejection of claim 41) states:

> ...Farrand (col. 2, lines 27-75) discloses ... **integrated circuits (col. 2, lines 38-42); mounts 2 in the enclosure 7 to mount the integrated circuits (col. 2, lines 38-42), wherein the mounts 2 couple with the interior surface 8-11; a pattern of interconnects 30 couple with the interior surface 8-11 and interconnected with the mounts 2** to transmit signals between the integrated circuits (col. 2, lines 38-42, **but lacks at least one switch coupled with the pattern of interconnects**

[23] *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).
[24] See claims 33 and 41.
[25] See claims 33 and 41.

and exposed via the outside surface of the enclosure to receive input from outside of the system....

Farrand does not describe, expressly or inherently, "mounting the components ... to the interior surface...". Farrand describes mounting "integrated circuit components" on "module boards" or "boards", which are interconnected via wire patterns on the module boards. The circuits on both sides of the module boards are interconnected through the conducting strips on the inner sides of the housing (see col. 3, lines 38-47). In fact, Farrand states that an object of the invention includes "provid[ing] a package in which circuits of modules are flexibly attached to the module boards to permit dimensional changes..." (see col. 1, lines 63-65), teaching away from mounts for integrated circuits on the walls of the enclosure. Thus, Farrand clearly does not describe "mounts 2 in the enclosure 7 to mount the integrated circuits (col. 2, lines 38-42), wherein the mounts 2 couple with the interior surface 8-11 [of the enclosure]". Applicants respectfully request that the rejection of claims 33 and 41 be withdrawn and that claims 33 and 41 be allowed.

Similarly, Wakabayashi does not describe, expressly or inherently, "...at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure...." The keyed lock mechanism from Wakabayashi is described as a lock that can optionally be configured to provide an electrical switching function. However, neither Wakabayashi nor the Office action provide or suggest support in Wakabayashi (or Farrand) for "...coupled with the pattern of interconnects at the interior surface...." Thus, the combination of Farrand and Wakabayashi clearly fails to describe or teach "...at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure...." Applicants respectfully request that the rejection of claims 33 and 41 be withdrawn and that claims 33 and 41 be allowed.

The combination of Farrand and Wakabayashi requires the use of impermissible hindsight reasoning to attempt to reconstruct claims 33 and 41. Farrand teaches away from the proposed combination of Farrand and Wakabayashi because Farrand teaches away from mounts for integrated circuits on the interior surface of the enclosure. In particular, Farrand teaches flexible attachment of the integrated circuits on module boards to permit dimensional changes, which teaches away from mounting integrated circuits on the interior surface of the enclosure.

Furthermore, the rejections change the principle of operation of Farrand by significantly changing or eliminating the hermetic seal as taught by Farrand, provide no support for a motivation to combine a keyed lock mechanism of Wakabayashi with the electronic circuit of Farrand, provide no support for sealing the keyed lock mechanism, potentially change the principle of operation of Farrand in relation to use of the lock, and change the principle of operation of the keyed lock mechanism, which is used in Wakabayashi to physically lock a printer cartridge to a printer enclosure. Even so, the combination still fails to achieve all of the elements of claims 33 and 41 because the Office action provides no support for mounts or integrated circuits mounted to the interior wall of the enclosure and no support for "...at least one switch coupled with the pattern of interconnects at the interior surface and exposed via the outside surface of the enclosure...." Thus, Applicants contend that only impermissible hindsight could motivate reconstruction of the claims with these references. As such, the rejections of claims 33 and 41 should be withdrawn and claims 33 and 41 should be allowed.

Since the independent claims 33 and 41 are in condition for allowance, the claims dependent upon claims 33 and 41 are also in condition for allowance.[26] Accordingly, Applicants respectfully request that the rejections with respect to the dependent claims also be withdrawn.

[26] *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

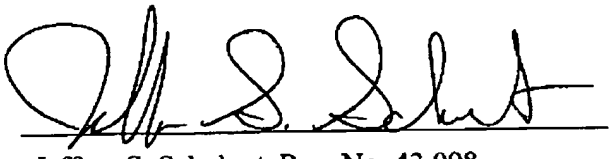
CONCLUSION

Applicants respectfully traverse the restriction requirement and cited references in regards to the claim rejections of claims under 35 USC § 103. Accordingly, Applicants believe that this response constitutes a complete response to each of the issues raised in the Office action. In light of the accompanying remarks, Applicants believe that the pending claims are in condition for allowance. Thus, Applicants request that the rejections be withdrawn, pending claims be allowed, and application advance toward issuance. If the Examiner has any questions, comments, or suggestions, the undersigned attorney would welcome and encourage a telephone conference at (512) 288-6635.

No fee is believed due with this paper. However, if any fee is determined to be required, the Office is authorized to charge Deposit Account 50-3295 for any such required fee.

Respectfully submitted,

August 18, 2006
Date



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